

FEARLESS FARRIS STINKER STATION 63 (PWS 6030074) SOURCE WATER ASSESSMENT FINAL REPORT

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State of Idaho Department of Environmental Quality

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Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality (DEQ) is completing the assessments for all Idaho public drinking water systems. The assessment for the Fearless Farris Stinker Station 63 drinking water source is based on a land use inventory within a 1,000 foot radius of the well source, sensitivity factors associated with the source, and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for Fearless Farris Stinker Station 63 (PWS # 6030074)* describes the public drinking water system, the associated potential contaminant sources located within a 1,000 foot boundary around the drinking water source, and the susceptibility (risk) that may be associated with any potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and they should not be used to undermine public confidence in the Fearless Farris Stinker Station 63 water system.**

The Fearless Farris Stinker Station 63 drinking water system consists of one well located off of U.S. Highway 30 north of Pocatello (Figure 1). At this time, there appears to be no primary water quality issues associated with the well source. However, there are potential contaminant sources that exist within the delineation capture zone. These sources include a wastewater land applications site, an underground storage tank location, and a sanitation services site (Table 1 and Figure 2). Also shown is a Superfund Amendments and Reauthorization Act Tier II Facility (SARA) that is listed under the Community Right to Know Act to identify hazardous materials storage facilities. Possible contaminants of concern from these sources are gasoline, petroleum-related products, inorganic chemicals, and microbes.

The capture zone for this well is within two priority areas. The priority areas were defined using available data from the DEQ, Idaho Department of Water Resources and the U.S. Geological Survey. The first priority area is for the volatile organic compound Tetrachloroethylene or PERC. It is mentioned because at least 25 percent of the local area wells have detection greater than one percent of the primary standard or other health standard. Since the Fearless Farris Stinker Station 63 is located in this priority area the likelihood of PERC in the water increases. The second priority area is for inorganic compound Nitrate, and was identified because greater than 25 percent of the wells in this area show Nitrate values above 5 milligrams per liter.

The susceptibility of the well to contamination was ranked as high, moderate, or low risk according to the following considerations: hydrologic characteristics, physical integrity of the well, land use characteristics, and potentially significant contaminant sources. The susceptibility rankings are specific to a particular potential contaminant or category of contaminants. Therefore, a high susceptibility rating relative to one potential contaminant does not mean that the water system is at the same risk for all other potential contaminants. The relative ranking that is derived for each well is a qualitative, screening-level step that, in many cases, uses generalized assumptions and best professional judgement.

Hydrologic sensitivity was rated moderate for the well. This assessment is based upon poor to moderately drained soil characteristics, and well data showing gravel within the vadose zone (zone from land surface to the water table). The first depth-to-ground water is less than 300 feet, and there is less than 50 feet of low permeability (fine-grained) units present between the surface and the water-producing zone of the aquifer. These subsurface characteristics are evaluated because of their influence on the downward flow of contaminants. The well construction was rated moderate for the well. The well construction directly affects the well's ability to protect the water source from contaminants. The wellhead and surface seal are in good condition, and the well casing and annular seal do not extend into a low permeable hydrologic formation. According to the "*Recommended Standards for Water Works*," the casing thickness of your well is less than the recommended thickness for a public water system (IDAPA 58.01.08.200). Also, the well is located outside of a 100-year floodplain, which protects it from surface water runoff. The final susceptibility ranking for the well is moderate for inorganic, volatile and synthetic organic contaminants, and moderate for microbial contaminants (Table 2). A copy of the susceptibility analysis (Table 3) for the Fearless Farris Stinker Station 63 system along with a map showing any potential contaminant sources (Figure 2) is included with this summary.

Table 1. Fearless Farris Stinker Station 63 Potential Contaminant Inventory

Site #	Source Description	Source of Information	Potential Contaminants ¹
1	Underground Storage Tank site	Database Inventory	VOC, SOC
2	Sanitary Services site	Database Inventory	VOC
3	Superfund Amendments and Reauthorization Act site	Database Inventory	VOC, SOC
4	Waste water Land Applications site	Database Inventory	IOC, Microbes

¹Potential Contaminants: IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Table 2. Summary of Fearless Farris Stinker Station 63 Susceptibility Evaluation

	Susceptibility Scores ¹									
	Hydrologic Sensitivity	Contaminant Inventory				System Construction	Final Susceptibility Ranking			
Well		IOC	VOC	SOC	Microbials		IOC	VOC	SOC	Microbials
1	M	M	M	L	L	M	M	M	M	M

¹Susceptibility Scores: H = High Susceptibility, M = Moderate Susceptibility, L = Low Susceptibility

This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a "pristine" area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

For the Fearless Farris Stinker Station 63 drinking water system, source water protection activities should focus on implementing practices aimed at keeping the distribution system free of microbial contaminants. If a microbial problem ever arises, the system will want to consider

using a disinfectant. Although there are no water quality issues at this time, the water system should consider developing a wellhead protection strategy. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term. For assistance in developing protection strategies please contact the Pocatello Regional Office of the Idaho Department of Environmental Quality at (208) 236-6160.

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as ASuperfund, is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (IDEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100-year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by IDEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory

Ground Water Final Susceptibility Scoring

The final scores for the **Fearless Farris Stinker Station 63** susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.375)

Final Susceptibility Scoring:

- 0 - 5 Low Susceptibility
- 6 - 12 Moderate Susceptibility
- > 13 High Susceptibility

Table 3. Fearless Farris Stinker Station 63 Susceptibility Analysis

Ground Water Susceptibility Report

Public Water System Name : FEARLESS FARRIS STINKER STATION 63
Public Water System Number 6030074

Well# : WELL

05/29/2001 10:23:33 AM

1. System Construction		SCORE			
	Drill Date	12/17/1997			
	Driller Log Available	YES			
	Sanitary Survey (if yes, indicate date of last survey)	YES	1999		
	Well meets IDWR construction standards	NO	1		
	Wellhead and surface seal maintained	YES	0		
	Casing and annular seal extend to low permeability unit	NO	2		
	Highest production 100 feet below static water level	NO	1		
	Well located outside the 100 year flood plain	YES	0		
Total System Construction Score			4		
2. Hydrologic Sensitivity					
	Soils are poorly to moderately drained	YES	0		
	Vadose zone composed of gravel, fractured rock or unknown	YES	1		
	Depth to first water > 300 feet	NO	1		
	Aquitard present with > 50 feet cumulative thickness	NO	2		
Total Hydrologic Score			4		
3. Potential Contaminant / Land Use - ZONE 1A		IOC Score	VOC Score	SOC Score	Microbial Score
	Land Use Zone 1A	IRRIGATED PASTURE	1	1	1
	Farm chemical use high	NO	0	0	
	IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO
	Total Potential Contaminant Source/Land Use Score - Zone 1A	1	1	1	1
Potential Contaminant / Land Use - ZONE 1B					
	Contaminant sources present (Number of Sources)	YES	1	2	1
	(Score = # Sources X 2) 8 Points Maximum		2	4	2
	Sources of Class II or III leacheable contaminants or	YES	2	0	0
	4 Points Maximum		2	0	0
	Zone 1B contains or intercepts a Group 1 Area	YES	2	2	0
	Land use Zone 1B 25 to 50% Irrigated Agricultural Land		2	2	2
Total Potential Contaminant Source / Land Use Score - Zone 1B		8	8	4	4
Cumulative Potential Contaminant / Land Use Score		9	9	5	5
4. Final Susceptibility Source Score		10	10	9	10
5. Final Well Ranking		Moderate	Moderate	Moderate	Moderate